

Claims

1. Method for the production of machine parts at least partially lined with a mineral casting, whereby the mineral casting is cast into at least one housing element (1, 2) of the machine part acting as a casting mold, so that the mineral casting forms a lining element (5) that is adapted to the inner contour of the housing element, after it hardens, characterized in that the inner surfaces of the housing element (1, 2) are treated with a parting agent (3) before casting occurs.

2. Method according to claim 1, characterized in that the wall thickness of the lining element (5) is predetermined by a core (4) that is located in the housing element (1, 2) during the casting process.

3. Method according to claim 1, characterized in that a mixture of a binder with a filler is used as the mineral casting, whereby the filler is a fine-grained wear-resistant and corrosion-resistant material, such as, in particular, silicon carbide, quartz sand, glass, ceramic, or a mixture of these materials.

4. Method according to claim 3, characterized in that a synthetic resin hardener system that cures when heat is applied is used as the binder.

5. Method according to claim 1, characterized in that the housing element has anchoring means that project into the mineral casting, or is otherwise connected with the lining element with a positive lock.

6. Method according to one of the preceding claims, characterized in that the housing element is a mantle housing part of a spiral housing of a centrifugal pump.

7. Method according to claim 6, characterized by the following method steps:

- at least two mantle housing parts (1, 2) that are connected with one another and have been treated with the parting agent (3) on their inner surface have the mineral casting cast into them, whereby a core (4) is located in the interior of the mantle housing parts, which predetermines the wall thickness of the lining element (5) during the casting process;

- after the mineral casting has hardened, partially or completely, the mantle housing parts (1, 2) are separated from one another;

- the core (4) that is surrounded at least partially by the one-piece lining element (5) is destroyed and removed;

- the mantle housing parts (1, 2) are joined together again.

8. Method according to claim 6, characterized by the following method steps:

- at least two mantle housing parts (3) that have been treated with the parting agent (3) on their inner surface have the mineral casting cast into them, whereby the wall thickness of the lining element (5) is predetermined by a core (4) during the casting process, in each instance;

- after the mineral casting has hardened, partially or completely, the core (4) is removed;

- the mantle housing parts (1, 2) lined with the mineral casting are joined together, whereby the sealing surfaces of the lining elements (5) are sealed.

9. Method according to claim 8, characterized in that the casting mold formed by the mantle housing parts (1, 2) and the

core (4), in each instance, is configured in such a manner that the lining elements (5) project out of the mantle housing parts (1, 2) by several millimeters in the region of the sealing surfaces.

10. Method according to claim 8, characterized in that the casting mold formed by the mantle housing parts (1, 2) and the core (4), in each instance, is configured in such a manner that the lining elements (5) lie behind the screw connection collars (10, 11) of the mantle housing parts (1, 2), or end flush with them.

11. Centrifugal pump having at least one impeller and at least one impeller chamber (6) that accommodates the impeller, which chamber is lined at least in part with lining elements (5) of mineral casting, whereby the lining elements (5) are surrounded by a metallic mantle housing that consists of at least two mantle housing parts (1, 2) into which the lining elements (5) are cast, characterized in that a gap (3) filled with a parting agent exists between the outer surfaces of the lining elements (5) and the inner surfaces of the mantle housing parts (1, 2).

- Abstract -